Meeting Summary

Day 1: June 19, 2013

1. Welcome and Introductions

The meeting was called to order at 9:05 a.m., June 19, 2013, by the Chair of the Delta Independent Science Board (ISB or the Board), Dr. Tracy Collier. Seven members of the Board were present: Brian Atwater, Tracy Collier, Harindra (Joe) Fernando, Jay Lund, Judy Meyer, Richard Norgaard, and John Wiens. One member participated by phone: Liz Canuel. Vince Resh was absent.

Collier is now Chair of the Board, Lund is Chair-elect, and Norgaard is Past Chair.

None of the Board members made any new disclosures.

Delta Science Program (DSP) Staff in attendance: Marina Brand, Peter Goodwin, Lauren Hastings, Rainer Hoenicke, and Joanne Vinton.

2. NCCP presentation and discussion

Shannon Little, Staff Counsel, Office of the General Counsel, Department of Fish and Wildlife (CDFW), explained the Natural Community Conservation Planning Act (NCCPA) and its relationship to the Bay Delta Conservation Plan (BDCP). NCCPs provide "for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves or other measures that provide equivalent conservation of covered species appropriate for land, aquatic, and marine habitats within the plan area" (Fish and Game Code §2820). The BDCP will seek permits under NCCPA.

The Delta Reform Act requires CDFW to consult with the Board during development of the BDCP and requires the Board to review the BDCP draft environmental impact report (EIR). The Board is not required to decide if the BDCP meets the standards of the NCCPA.

The Department of Water Resources (DWR) is the lead agency for the EIR, and the CDFW is a responsible agency under the California Environmental Quality Act (CEQA). The BDCP is seeking take for 57 covered species, and under the NCCPA, take of fully protected species is allowed. The goals and objectives for the BDCP will be developed at both the landscape and species scales. Sources of funding for projects proposed as NCCPs include developer fees, bond monies, federal and state funds, although every situation is different. The scale of the BDCP is larger than any previous NCCP and funding will be an issue that will have to be analyzed as part of the plan.

Under the California Endangered Species Act (CESA) alternatives to take must be included. These are different than the analysis of alternatives to a project required under CEQA. The NCCPA also defines the components of the monitoring and adaptive management aspects of the project. There must be rough proportionality between the proposed development and the conservation. For BDCP, Conservation Measure (CM) 1 is the proposed project and CMs 2-22 are intended to mitigate the impacts as required under the National Environmental Policy Act (NEPA) and to meet the conservation requirements under the NCCPA.

Board members asked how long NCCPs are in effect. They said that management of endangered species and habitat seems to continue indefinitely. Endangered species are rarely

recovered and restored habitat is rarely sustainable. Little said that the term of the BDCP permit would be 50 years.

Board members asked about project and programmatic level analyses. CM 1 in the BDCP is about construction and operation of water facilities. It has been analyzed at the project level (detailed), but the other conservation measures have been analyzed at the program level (general). This appeared to the Board as being out of compliance with the concept of "rough proportionality" and members recommended that all conservation measures be analyzed at the same level. One member suggested that water conservation should also be addressed in the BDCP.

The BDCP does not identify the actual parcels to be restored. Board members asked about guarantees that parcels will be available. Little said that eminent domain could possibly be used to acquire land.

The Department of Water Resources is working with the State Water Resources Control Board to obtain Clean Water Act permits.

Dan Ray, Delta Stewardship Council Chief Deputy Executive Officer, explained that the ISB's authority to review the BDCP Draft EIR comes from four sources as reflected in the charge to the Board. These are:

a. EIR: Water Code Sec 85320 (c): … The Delta Independent Science Board shall review the draft environmental impact report and submit its comments to the council and the Department of Fish and Game.

b. Adaptive management: Water Code Sec 85280(a)(3): The Delta Independent Science Board shall provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta through periodic reviews of each of those programs that shall be scheduled to ensure that all Delta scientific research, monitoring, and assessment programs are reviewed at least once every four years.

   This provision is relevant both to the BDCP, especially portions of its Chapter 3 addressing the Adaptive Management and Monitoring Program and related portions of Chapter 7, and to the BDCP's EIR, which incorporates adaptive management into important mitigation measures.

c. Science advice on the Delta Plan: Water Code 85308 (a): The Delta Plan shall meet all of the following requirements: (a) Be based on the best available scientific information and the independent science advice provided by the Delta Independent Science Board.

   This provision is relevant because, if the BDCP is successfully approved, it will be incorporated into the Delta Plan per Water Code 85320(e).

d. Authority to consult: Water Code 85320 (c): The department shall consult with the council and the Delta Independent Science Board during the development of the BDCP.

   The "department" as used here refers to the Department of Water Resources.

The BDCP will be an element of the State Water Plan, which includes provisions for funding the state water project. Water contractors will be responsible for the mitigation of adverse effects caused by project construction and water exports, which could be an incentive to reduce reliance on the Delta. The State is responsible for enhancement that goes beyond mitigation.

Ray said that the Delta Stewardship Council and the Department of Water Resources want advice on best available science from the Board. The Board has a wide perspective, so it has an important role.

Public Comment

- Erik Ringelberg, Local Agencies of the North Delta – Ringelberg said that mitigation is conceptual but the impacts will be immediate and discrete. The draft EIR does not analyze impacts caused by all construction, such as effects on foraging cranes at the Stone Lakes National Wildlife Refuge. Landowners in the Delta are not included in development of the NCCP. Adaptive management cannot solve all problems. Adaptive management is difficult and not enough funding is available. For BDCP, too many species are affected. Impacts need to be analyzed on a short time scale based on each species' lifespan and mitigation areas determined by species' needs.
- BJ Miller, San Luis and Delta-Mendota Water Authority – Miller suggested that what the Board was being asked to do was not an effective use of its time and expertise. Miller stated that he is developing a list of major scientific issues in the Delta and suggested that the ISB ask BDCP to provide it with the list. He indicated that at the moment, 14 issues had been identified and suggested that the Board focus on this list when preparing comments on the BDCP Draft EIR. After the meeting, Miller gave the Board a list of issues and ideas about the Board's role. A collaborative adaptive management team (CAMT) is forming that may use the list of issues to attempt to have stakeholders work together to resolve their differences. Miller asked the Board for comments on the list.

3. BDCP and associated DEIR/S

Board members discussed their comments on the administrative draft of the BDCP EIR. They considered expanding one of the bullets to include a recommendation on how science should be funded to guarantee lack of bias, but found that the information is covered in BDCP Chapter 8. The bullets will be reordered to show priorities. The comments were approved with edits.

Public Comment

- Gary Bobker, Program Director,The Bay Institute – Bobker stated that more clarity is needed about what BDCP is attempting to accomplish. Do the objectives represent recovery thresholds and do they meet the SMART standard (specific, measurable, achievable, relevant, time-bound)? He questioned the scope of the BDCP alternatives and wondered why flow is not treated as a primary stressor. The EIR needs to consider the effects of restoration on the food web and food production over time and evaluate the assumption that increased habitat acreage will compensate for flow reductions.

4. CEQA presentation and discussion

Professor Brian Gray, UC Hastings College of Law, provided a tutorial on the California Environmental Quality Act (CEQA) and its relationship to the Bay Delta Conservation Plan (BDCP). He said that the BDCP is considered a project under CEQA and NEPA.

Atwater asked if there is a conflict having staff from the agencies that will be approving permits for BDCP write portions of the document. Gray indicated that he is concerned about potential conflicts when a single agency conflates its proponent and regulatory functions.

Board members asked about the range of alternatives in the EIR. Gray said that alternatives need only consider different methods of sending water south and that conservation is not an alternative. However, conveyance and conservation can be coupled to help create a reasonable range of alternatives. All alternatives should be analyzed equally under NEPA. However, this is not a requirement under CEQA.

Water Code §85320 (b) (2) B through G are specific mandates for the Delta Stewardship Council and the Board. The charge to the Board includes A, C, D, and G only, but Gray encouraged the Board to comment on all sections.

Gray emphasized two points in the law:

- "The BDCP shall include a transparent, real-time operational decision-making process in which fishery agencies ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations" (Water Code §85321). However, Chapter 7 of the draft EIR sets up a Permit Oversight Group (POG), which includes the fisheries agencies, and an Authorized Entity Group (AEG), which includes the contractors for the State Water Project (SWP) and the Central Valley Project (CVP). According to Gray, the POG should have final say, but in the draft EIR, the AEG has veto power. Under the proposed structure, the only option that the POG will have is to revoke the permit, an action which historically has never occurred. See slides 52-60 of the presentation.
- In the California Supreme Court decision 43 Cal. 4th 1143 (2008), the court concluded that the fundamental goal of CALFED was to increase exports. However, the court also wrote: "The CALFED Program is premised on the theory, as yet unproven, that it is possible to restore the Bay-Delta's ecological health while maintaining and perhaps increasing Bay-Delta water exports through the CVP and SWP…If practical experience demonstrates that the theory is unsound, Bay-Delta water exports may need to be capped or reduced." See slides 61-65 of the presentation.

Gray said that the Board can comment on anything in the Draft EIR. Meyer asked if BDCP is required to offer a range of alternative mitigation measures. Gray said no, but the Board could recommend it to a decision maker as good policy.

Lund suggested that the Board's comments be organized under each of the legal statutes and include cross-references to the specific section. It could give the comments greater force and be more understandable to the non-scientist.

Board members asked about project and program-level analyses. Gray said that program-level analysis allows the lead agency to postpone tough decisions. Gray urged the Board to comment on any analysis it considers insufficient. He said that the Board should not be reassured by the idea that the draft EIR is a program-level analysis. Meyer said the Board's concern is that CM 1 is analyzed in detail (project level), but everything else is analyzed at the program level. Gray said it is a serious problem and does not support the coequal goals. He said that state law requires administration of BDCP according to the coequal goals, but federal laws, such as the Endangered Species Act, do not allow projects to be operated if they jeopardize endangered species or alter critical habitat.

Public Comment

- Thomas M. Zuckerman, Central Delta Water Agency – Zuckerman said he thought it was good for the Board to hear from Gray as independent counsel. Zuckerman has encouraged the Delta Stewardship Council to do the same, but the Attorney General's office has resisted.

The Board discussed how to organize its comments on the public draft of the EIR. Norgaard wants comments to be synthesized in some way that will make them powerful. Wiens said that the Board's review will be wasted unless the comments are strong. Meyer wants to use the charge questions to organize the comments. Collier wants to wait to submit comments until the independent effects analysis is finished, which is currently scheduled for later than the comment deadline for the EIR.

Review of the BDCP draft EIR will be led by Atwater, Canuel, Norgaard, and Wiens. Dr. Mike Healey, a former Board member, will be asked to assist.

Board actions until October will be to review the Delta Science Plan through September, and then start on the draft BDCP EIR, if it is available on October 1, or continue with the Fish and Flows review. The Fish and Flows review could inform review of the draft EIR and the State Water Resources Control Board's Phase 2 of the Bay-Delta effort. Goodwin suggested that the Fish and Flows group listen to the Phase 2 meetings.

5. Public Comment (For matters that were not on the agenda, but within subject matter jurisdiction of the Delta ISB.)

None.

4:25 p.m. – Adjourned

Day 2: June 20, 2013

1. Welcome

The meeting was called to order at 9:00 a.m., June 20, 2013, by the Chair of the Delta Independent Science Board (ISB or the Board), Dr. Tracy Collier. Seven members of the Board were present: Brian Atwater, Tracy Collier, Harindra (Joe) Fernando, Jay Lund, Judy Meyer, Richard Norgaard, and John Wiens. One member participated by phone: Liz Canuel.

Delta Science Program (DSP) Staff in attendance: Marina Brand, Peter Goodwin, Lauren Hastings, Rainer Hoenicke, and Joanne Vinton.

2. Delta Stewardship Council (DSC) Executive Officer's Report

Chris Knopp, DSC Executive Officer, told the Board that several lawsuits have been filed against the DSC. He said: "Some are suing us for using the powers they believe we were not given by the Legislature; others for not using the powers they believe we were given. Environmental groups want us to be more restrictive; water agencies believe we're too restrictive. The Plan, however, actually walks the very careful line specified in the Delta Reform Act." He thinks that the lawsuits, filed in three different counties, could be consolidated into two.

Knopp is pleased with the first draft of the Delta Science Plan, its three-pronged approach (the Science Plan, the Science Action Agenda, and the State of Bay-Delta Science report), and outreach to the science community.

3. Delta ISB Chair's Report

The new Chair, Tracy Collier, will be in Sacramento on June 27 to give the Board's report at the Delta Stewardship Council meeting.

Collier, who is Science Director at the Puget Sound Partnership (PSP), co-hosted a workshop on May 14-15 on how science can better serve ecosystem recovery. Practices and experiences of scientists and practitioners from large-scale coastal ecosystems, such as Chesapeake Bay, the Columbia River Estuary and the Louisiana coast were discussed and compared. Staff from the Delta Science Program also participated. The purpose of the workshop was to talk about the hard issues each group is facing, and exchange lessons learned. A summary report will be written and sent to the participants and to the Board. Most regions are dealing with some kind of ecosystem crisis. For Puget Sound, declines in salmon populations are perceived as the largest issue. East coast groups are usually dealing with only a few stressors, but in the Delta and in Puget Sound, many stressors exist. Goodwin said that each group is managed in different ways. All groups are struggling with how to include social scientists and communicate with the public.

Meyer asked about adaptive management and performance measures. Collier said that the PSP is developing an adaptive management framework. The challenge is doing adaptive management at a large scale. Goodwin said that some local projects are doing great adaptive management, but the problem is scaling up.

Fernando asked about social science outreach. Collier said that the PSP has two or three social scientists on their science panel who work together in a subcommittee. The subcommittee is asking for proposals to address social science questions. Norgaard said that conflicts are strong in the Delta, so opportunities for social science work are immense.

4. Delta ISB Business Matters

Goodwin explained the process that will be used to find a replacement for Ed Houde, who resigned from the Board in May. Goodwin has had a good response to the solicitation, which closes on August 5. From the applicants, Goodwin will nominate a replacement, who needs to be approved by the Delta Stewardship Council. The vacancy will be filled sometime in the fall—the timing depends on interviews, availability of references, and how quickly a contract can be signed.

5. Lead Scientist's Report

Goodwin told the Board that the 1999 Baylands Ecosystem Habitat Goals are being updated to reflect expected changes in Baylands habitat caused by climate change. One hundred and eighty people are working on the project. Goodwin suggested that the Board invite one of the lead authors to a Board meeting.

Goodwin also told the Board about the following (for details, click here):

- The State Water Resources Control Board's (SWRCB) state-wide survey of contaminants in sport fish
- Highlights from the recent Delta Science Program and UC Davis Seminar titled, "Tidal Marshes and Native Fishes in the Delta: Will Restoration make a Difference?"
- The IEP Science Advisory Group (SAG) review of its juvenile fish monitoring program
- The Puget Sound Institute workshop on science in ecosystem restoration. The Delta Science Program would like to host the next workshop
- Findings from "Broad Timescale Forcing and Geomorphic Mediation of Tidal Marsh Flow and Temperature Dynamics" by Chris Enright et al (2013)
- Establishment of a Collaborative Adaptive Management Team to guide a robust and collaborative science and adaptive management program for the next iteration of the Biological Opinions
- Highlights from "Climate Change Vulnerability of Native and Alien Freshwater Fishes of California: A Systematic Assessment Approach" by Peter Moyle et al (2013)

DSP has two Brown Bag seminars planned for July:

- Seismic Performance of Levees Founded on Non-organic and Organic Soils in California and Japan on July 10
- The Severn Barrage Project and Balancing the Environment and Power Generation in the U.K. The speaker will be Professor Roger A. Falconer, President of the International Association for Hydro-Environment Engineering and Research Director Hydro-environmental Research Centre, School of Engineering, Cardiff University. The seminar is scheduled for Wednesday, July 17, 12:00 PM-1:30 PM Pacific Time in the 2nd Floor Conference Center, 980 Ninth Street, Sacramento.

On June 11, the Breach III team presented the final products for their project. Breach III evaluated restoration of Sacramento–San Joaquin Delta tidal wetlands brought about by breaching and removing levees around Delta islands.

On June 11-13, Goodwin attended the Universities Council on Water Resources conference on Sustaining Water Resources and Ecological Functions in Changing Environments.

6. Delta Science Plan

Goodwin presented the first draft of the Delta Science Plan and stressed that everyone engaged in Delta issues appears to have made a commitment to change, that the Delta Science Plan (Plan) tries to build on other successful efforts and has to work for everyone, and that the Delta Science Program is the facilitator. Some of the ideas proposed in the draft Plan include convening science summits on issues such as data management, community modeling and adaptive management; developing one set of standards for conducting peer-review with the Delta Science Program serving as a central clearinghouse; revising the science-management structure to include a Policy Science Team and a Science Synthesis Team; and addressing a number of ways in which the synthesis of scientific information could occur such as through invited papers and panels, PSP grants and continuation of the Fellows Program, and developing a Delta Center for Analysis and Synthesis.

Fernando said that the Plan lays out the structure for solving the complex problems in the Delta. He said that it is difficult to mesh science with operations. In prior work in Louisiana, he found that people in charge of operations thought that too much time was needed to reach consensus, and they had to make decisions in a short amount of time. Sometimes they used science, other times they ignored it. Fernando suggested that some thought be put into how to bring the science and operations communities together so that they can engage and make decisions when time is short.

Wiens said that he likes the emphasis on integration and synthesis, but synthesis of information on a large scale will be needed to help managers make decisions and meet the coequal goals. That is the essence of a science plan, and it should be emphasized front and center. Continuing with Fernando's comment, Wiens said that adaptive management is slow. The issues in the Delta require nimbleness and responsiveness, so that managers can respond to ongoing change. Adaptive management will need to be more rapidly streamlined. He recommended that the Science Plan address that problem. The model used by the National Center for Ecological Analysis and Synthesis takes too long—three to five years. Science that is good enough might need to be used instead of best available science. Scientists will not have time to look at issues deeply.

Meyer agreed with Fernando and Wiens. She is interested in seeing the Science Action Agenda. She is excited about the Delta Center for Analysis and Synthesis, which could give scientists time to synthesize all the data and write reports. The Public Policy Institute of California seems able to produce reports rapidly. A critical component is having enough money to support synthesis activities.

Norgaard asked if the Plan might be using synthesis instead of judgment. If so, the use of judgment, based on science, as part of the decision-making tool box is not in the Plan and may need to be added. Synthesis takes too long—quicker judgments could be made while synthesis continues. Everything described in the Plan will take time and additional resources (funding) will be needed.

Lund said that the Plan is full of good ideas, and the direction is right. However, it is too incremental and relies on existing institutions that have not worked well together in the past. The Plan might not be ambitious enough to pull everyone together. Lund also feels that existing institutions are not constructed to move quickly and cited contracting as an example.

Canuel is pleased by the general direction of the Plan. Some of the suggested structures will be good at bringing scientists together. She also likes the Delta Center for Analysis and Synthesis, and the idea of "rotators." Team building will be needed, so that people feel connected. For the new teams, inclusiveness will need to be balanced with limiting the size of the teams because large teams usually break into smaller groups. Goals and timetables with deliverables and checks in the system will need to be established.

Wiens said that the goal is to put science into practice. As written, the Plan promotes analysis and synthesis, but does not emphasize putting science into practice to manage the Delta and achieve the coequal goals.

Fernando said that if quick answers are needed from scientists, they can respond by using applied science with its inherent uncertainties while fundamental science is in progress.

Meyer is not sure that the science of management and operations is emphasized enough in the Plan. In addition, this science needs to be better integrated with the biological sciences.

Norgaard is concerned that the State of Bay Delta Science might not be of universal interest if it is too short and is used only to update the Plan. Another type of document, one which is more widely understood by the public, might be needed.

Collier said that the PSP is building webpages to communicate with the public.

Public Comment

- Dave Zezulak, California Department of Fish and Wildlife – State and federal agencies that are responsible for endangered species are required to take action. Management has to be aware of the best available science, but that is not always possible. Zezulak recommends a judgment panel that the state and federal agencies can consult with to address the science before a project is initiated.
- Greg Zlotnick, San Luis and Delta-Mendota Water Authority – Would like to see the Plan break some of the inertia that seems to be built into the system. He liked Goodwin's definition of "policy" and Norgaard's use of "judgment/synthesis". However, he wondered how all of this would fit into the Implementation Committee that is being established by the DSC. Managers do not need to have the scientists make the decisions, rather managers need to know what the options are and their implications. The decision-maker-policy interface is as important as the ones described in the Plan.
- Val Connor, State and Federal Contractors Water Agency – Connor appreciates the great outreach to the water community. A new team, the Collaborative Adaptive Management Team, is starting to meet and is considered a pilot effort to integrate across the issues facing the Delta. The idea of "rotators" is good because it will help people understand multiple perspectives. The ISB has an important role to play in the Plan and it needs to champion the Plan in those venues where others are not able to go.

Board members discussed how to provide feedback on the Plan to DSP. Meyer suggested sending individual comments to a small group to collate. Goodwin asked for comments about missing pieces in the Plan. Hastings suggested appending individual comments to group comments, and Collier agreed. Collier, Lund, and Wiens will collate the comments.

7. Fish and Flows Program Review

The Board's next science program review will be about fish and flows. Team members from the Board are Judy Meyer, Joe Fernando, and Jay Lund. The team has been meeting informally with individual scientists who are working on fish and flows, and plans to meet with more. They

want to find out if the science community is organized and has the resources to determine flows in the context of adaptive management. The team does not intend to try to resolve the controversy. The team will synthesize the many documents on flows that already exist, many of which have undergone some form of review. They are also thinking about how to survey major research activities and how to organize the final report. One idea is to ask agencies to prepare a one-page summary of what each is doing and provide a set of questions as a guide. Several presentations will be scheduled for the whole Board to provide context for the members not working directly on the report. In addition, if the Board wants, the team will set up a roundtable discussion with representatives from agencies.

Meyer asked about the schedule for the fish and flows review. Collier responded that review of the Science Plan will be the major effort for August and September. After that, the Board will review either the draft BDCP EIR or continue with the fish and flows review.

Lund asked for help from DSP to collect reports.

Wiens said that he likes how the team is working. The Board can decide later if the new method is better than the method used for the habitat review, but for now it seems better.

Collier likes that the team is holding informal discussions now, and he likes the idea of roundtable discussions.

Meyer will send the questions that the fish and flows team prepared to Hoenicke and Hastings for review. The team will also scope out the type of help needed from Dr. Mike Healey, a former Board member and fish ecologist.

Public Comment

- Jerry Johns, retired state employee (SWRCB, DWR Deputy Director) – While working for the state, Johns participated in developing and implementing flow standards. He said that the Board needs to take a more holistic view of what is happening with the fish rather than jumping straight to flows. He noted that the report about the Pelagic Organism Decline predicts that fish populations will continue to decline. There is a need to understand the shift in the foodweb and what is driving it and how flow relates to changes in nutrients. In addition, exotic species have invaded the estuary and affected the foodweb. Johns said that the review should be about fish and food and should include a study of the mechanisms. This information would then lead the Board to determine what the cause of the fish declines is.
- Audrey Patterson, San Joaquin Tributaries Authority – Patterson asked what the scope of the fish and flows report is. She also prefers an emphasis on the mechanisms that are driving changes in fish. She encouraged interviews with consultants and other scientists that work outside of state agencies.
- Greg Zlotnick, San Luis and Delta-Mendota Water Authority – Zlotnick asked if the Board will comment on the science that is missing. The Board said yes.

Meyer said that the team is thinking of flows in the context of other drivers. Norgaard said that the review should be about foodwebs and flows. Wiens cautioned the Board to not be drawn into reviewing the science rather than the programs doing the science. He also stated that the Board has been obsessive about adaptive management and runs the risk of using adaptive management as the default answer to every question. He stressed that there are times when adaptive management is not appropriate. He will distribute a diagram that shows three other possibilities for dealing with environmental issues. Collier reminded everyone that the Board is not doing the science of fish and flows, but reviewing how others are doing the science related to fish and flows.

8. Public Comment (For matters that were not on the agenda, but within subject matter jurisdiction of the Delta ISB.)

None.

9. Meeting outcomes

The next meeting is a teleconference on July 12 from 10 to 12 am. Board members will discuss their initial impressions of the Delta Science Plan.

12:10 p.m. – Adjourned